UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

11 JUL 2011

Kimberly Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, D.C. 20426

RE: Environmental Assessment (EA) for MARC I HUB Line Project, Docket No. CP10-480-00

Dear Ms. Bose:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) has completed a review of the subject EA and offers the following comments.

EPA maintains a strong interest in the environmental and public health impacts and implications of natural gas development and distribution, both nationally and within the Mid-Atlantic region. Natural gas remains a key element of the nation's clean energy future, and the natural gas industry has grown at an unprecedented pace in Pennsylvania, in conjunction with development of the expansive Marcellus Shale play. Along with this remarkable growth, the rapid expansion of gas drilling and distribution activity in Pennsylvania and elsewhere places a special responsibility on the industry and government at all levels to ensure that the acquisition and distribution of this source of energy is accomplished while fully protecting public health and the environment.

The EA, in general, provides an informative and thoughtful analysis of many environmental impacts expected from the proposed project. The EA explores a variety of system and routing alternatives, and outlines an array of mitigation measures to minimize the expected adverse impacts. Yet, however well planned and implemented, the project would clear and fragment an undeveloped swath of forested and agricultural land 39 miles long and 75 feet wide. The MARC I Hub Line would coexist with, if not induce or accommodate, development of new gas wells, access roads, gathering lines, and other support infrastructure. Secondary and cumulative impacts (CI) on important resources are likely to occur from construction and operation of gas extraction related facilities (e.g., access roads must be improved to accommodate heavier truck and equipment traffic). The CI from this and other past, present and reasonably foreseeable future gas and non-gas related development in the area represent potentially significant impacts to the environment and public health. No matter how effective the best management practices (BMPs) and mitigation measures are, the construction of this pipeline triggers questions about effects on water quality, aquatic resources, air quality, wildlife and their habitat and forested landscapes, among other environmental and cultural values.

For example, EPA is concerned that many of the streams and water bodies in the project impact area are classified as High Quality (HQ) or Exceptional Value (EV) by Pennsylvania, and many are small and headwater streams, representing highly sensitive ecosystems. The project would require crossing

or drilling beneath 111 of these water bodies at various points along the corridor. The potential for sediment and other pollutant runoff from these crossings, combined with other existing and reasonably foreseeable development activity, whether related to gas extraction or other types of development, represents a potentially significant stress on the landscape and to the water quality and aquatic health of the interconnected stream networks which together help to support a robust watershed ecosystem. That ecosystem supports a high quality of life and recreational experience for both residents and visitors to the area alike.

EPA has identified three primary concerns with the CI analysis. **First,** it does not include consideration of non-gas related development, i.e., a full range of both similar and connected actions. **Second,** though it purports to include future Marcellus development in the analysis ("we also address cumulative impacts related to development of the Marcellus Shale..."), the EA dismisses consideration of these effects in any meaningful way with the explanation that "Given the wide extent of the Marcellus Shale and considering that development ....is expected to take 20 to 40 years....the exact location, scale, and timing of future Marcellus Shale upstream facilities....is unknown and, thus, outside the scope of our analysis." **Third,** it does not consider past or present development of any type, including Marcellus gas development, despite stating that "[d]rillng activities for Marcellus Shale....are ongoing throughout the proposed project area..."

Regarding our first concern, the EA considers other impacts only from gas related activities. It identifies other pipelines and gas related infrastructure in the project impact area, e.g., compressor stations, connectors, etc. However, the EA does not consider impacts from other types of development, e.g., highway or road improvements, housing developments, industrial or commercial development, mining activity, etc. The Council on Environmental Quality (CEQ) NEPA regulations at 40 CFR Part 1508.7 clearly call for consideration of <u>all</u> past, present , and reasonably foreseeable future actions, *regardless of what agency (Federal or non-Federal) or person undertakes such other actions*. Recognizing that the impact area is currently largely undeveloped, the EA should make an attempt to identify all types of past, present and future development, not just gas related development, and not only development directly related to the proposed Project.

Related to our second concern, the EA lacks clarity with respect to whether and how Marcellus Shale development was considered as part of the CI analysis. Although the EA states in one instance that it will address the CI related to development of the Marcellus Shale, it elsewhere dismisses the idea because "the exact location, scale and timing of future Marcellus Shale facilities that could potentially contribute to CI's in the project area is unknown and, thus, outside the scope of our analysis." Accordingly, the EA fails to identify what, if any, steps were taken to identify reasonably foreseeable actions related to Marcellus shale development relative to the CI analysis. To the extent that the EA states that projecting Marcellus Shale development is beyond the scope of the EA or that there are no significant impacts, we disagree. While EPA understands that development of Marcellus Shale will occur with or without the MARC I Line, and that estimating precise locations of all future Marcellus wells and associated infrastructure would be difficult, there can be no question that this development will continue to occur to some extent within the project service area. Reasonably foreseeable future actions

need to be considered in a NEPA analysis, even if they are not specific proposals, as long as they are not speculative in nature. We recommend that the Federal Energy Regulatory Commission (FERC) provide, at a minimum, some rough analysis of scenarios under which this development might occur, using, e.g., Pennsylvania Department of Environmental Protection (PA DEP) permit data, local planning department information (e.g., Bradford County Planning Commission maps), industry records and academic findings and projections, and then combine consideration of the impacts from this potential development with those of the proposed Project. The geographic scope of this analysis need not encompass the entire Marcellus play, but should go beyond the direct impact zone of the pipeline and include the areas directly and indirectly impacted by the construction and operation of the pipeline and the areas serviced by the pipeline.

Regarding our third concern, the EA notes that as of October 2010, 4,510 active well permits had been issued and 645 well completion reports had been received for wells drilled into the Marcellus Shale in Pennsylvania. Similar data is available for the three Counties (Bradford, Sullivan and Lycoming) and specific areas through which the proposed pipeline would travel. These permits and other data available as part of the economic analysis underlying the proposed pipeline construction and from other industry sources should provide FERC with data sufficient to identify foreseeable actions based on this known universe of existing and proposed wells and reasonably projected additional infrastructure elements such as compressor and gas processing stations.

While the EA provides a focused and informative analysis of many of the issues of concern, other linear construction projects of this magnitude (e.g., a highway project or utility line on new alignment) could warrant preparation of a full Environmental Impact Statement (EIS). One could certainly find support for the more comprehensive analyses and opportunity for public involvement that an EIS would provide. FERC's own NEPA regulations state that, "an EIS will normally be prepared first for "[m]ajor pipeline construction projects under Section 7 of the Natural Gas Act using right-of-way in which there is no existing natural gas pipeline." This question is discussed at some length in Section A.5 of the EA, but is dismissed with the rationale that, "a 39 mile, 30 inch diameter pipeline would not fall within the category of major pipeline construction project, unless .....it were environmentally controversial". The rationale goes on to suggest that many of the over 500 public comments raised prior to release of the EA were raised in opposition to Marcellus Shale development in general, and not to the MARC I Pipeline itself, and that opposition to the proposed pipeline does not render the action controversial for NEPA purposes. We find this rationale to be unconvincing. While we understand the explanation FERC offers, EPA believes that there are enough environmental and public health issues of concern and significant public interest, and arguably public controversy, as evidenced by the content of the public comments mentioned above, in addition to the 20,000 or more comments already submitted since release of the EA, to warrant such an approach (i.e., preparation of a full EIS).

EPA recognizes the prominent role that the FERC has with respect to oversight of this industry, and hopes to cooperate closely with FERC and other agencies as plans for this and other natural gas transmission lines are proposed. EPA is fully committed to understanding and evaluating the scientific

basis for the environmental impacts projected from this and other natural gas development and distribution activities.

EPA appreciates the opportunity to review this EA and to provide our comments. Enclosed are more detailed comments on specific topics within the EA. If you should have any questions about our comments, please contact Mr. Thomas Slenkamp, Office of Environmental Programs, at (215) 814-2750.

Sincerely,

Jeffrey D. Lapp, Associate Director
Office of Environmental Programs

Enclosure

cc: U.S. Army Corps of Engineers, Baltimore District
Pennsylvania Department of Environmental Protection

ATTACHMENT

Detailed Comments from the Environmental Protection Agency, Region 3 Office, pertaining to the Environmental Assessment (EA) of the MARC I Hub Line Project, FERC Docket No. CP10-480-00

General Comments:

In several instances, a map or maps would help to provide a better presentation, understanding and evaluation of the Project, e.g., when discussing multiple pipelines under the cumulative impacts discussion beginning on p. 96, or when referring to watersheds affected by the Project on p. 29. EPA recommends providing an overview map of the entire Project area, showing the proposed pipeline route, along with major water bodies, watershed boundaries, roadways, villages and towns.

Purpose and Need:

The brief discussion of purpose and need for the project provided on p. 1 does not clearly explain to the public why the existing gas pipeline distribution network is not sufficient for providing access to interstate markets for Marcellus Shale natural gas, and why a new pipeline on new alignment through largely undeveloped and forested land needs to be constructed.

It is difficult to understand why natural gas distribution could not be accomplished in the absence of the MARC I Line, especially since the applicant, Central New York Oil and Gas Company, LLC (CNYOG) stated in a January 12, 2011 Surreply to comments of EarthJustice on p. 5 that "Other Pipelines.....are capable of transporting gas produced from Marcellus shale.....directly from producer operated gathering lines rather than through the MARC I Line".

The EA also does not discuss the implications on the distribution system of delaying completion of the MARC I Hub pipeline while a more comprehensive analysis could be performed.

Water Quality:

EPA recommends that the NEPA analysis identify any relevant Total Maximum Daily Loads (TMDLs) associated with Clean Water Act Section 303(d) listed impaired waters. Page 34 of the EA identifies the Loyalsock Creek as the only proposed crossing involving an impaired water body, but does not list any associated TMDL's. We recommend using both EPA's national TMDL data base and information available on Pennsylvania Department of Environmental Protection's (PADEP) website (http://www.depweb.state.pa.us).

Any construction would need to meet the Erosion and Sediment Control requirements of Chapter 102 in the Pennsylvania Code(including riparian buffer requirements for special protection waters, preserving pre-development hydrology, etc., and any other requirements for Special Protection Waters in PA.)

Gas pipelines sometimes form a condensate that comes off the gas as it is piped, and this condensate needs to be removed. We recommend that the NEPA analysis describe whether any gas condensate is expected to form during transmission of gas in the MARC I Hub Line. If so, information on how this condensate, which is primarily brine, will be handled, should be included in the NEPA analysis.

Given the number of crossings and proximity to many Exceptional Value (EV) and High Quality (HQ) classified water bodies, EPA recommends that the NEPA analysis make specific reference and adhere to the Pennsylvania Department of Environmental Protection's (PA DEP) "Water Quality Antidegradation Implementation Guidance" (http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-47704/391-0300-002.pdf)

As part of its hydrostatic testing of the proposed pipeline and piping at the related above ground facilities, CNYOG is planning to withdraw water from the Susquehanna River and local ponds or wells. CNYOG has contacted the Pennsylvania Fish and Boat Commission (PFBC) and has stated that the exact amount of water required and the location of withdrawal would be included in the Project Implementation Plan and will be submitted to FERC prior to construction. CYNOG has also said that it would comply with any stipulations that are mandated by the PADEP through their water withdrawal application approval process. In addition, the Susquehanna River Basin Commission (SRBC) may have jurisdiction in approving and issuing water withdrawal permits in the Basin. It is recommended that SRBC be consulted in conjunction with the proposed water withdrawals.

Fisheries:

The EA identifies five game fish (brown trout, muskellunge, walleye, smallmouth bass, and channel catfish) that may be encountered in the area. EPA recommends that this analysis be expanded to consider other fish species that may be impacted. Accordingly, we recommend that FERC review the Commonwealth of Pennsylvania's list of endangered, threatened and candidate (ETC) species of fishes and provide an analysis of any potential impacts to species found on the list (see Chapter 75 of the PA Code that lists the species of fishes that must be discussed. The weblink is http://www.pacode.com/secure/data/058/chapter75/chap75toc.html). The ETC species may not occur within the streams proposed for crossing or that will be impacted; however, the NEPA analysis should state that the ETC species either occur or do not occur within the proposed streams and present modifications as needed. If they do occur, then we recommend that the NEPA analysis address the potential impacts of the proposed activities on these species. We also recommend that the NEPA analysis provide more detailed information concerning the impacts to fisheries and any proposed mitigation. The EA states that CNYOG will avoid construction during spawning season; however, the stream crossing activities may introduce sedimentation into the streams after this time frame and this should be addressed. Sections of the applicant's Erosion and Sediment Control Plan (ESCP) should be incorporated into the discussion of impacts and mitigation on p. 39.

Freshwater mussels may occur within some of the impacted streams and should be identified in advance of stream crossings or borings. Section B.3.b mentions that Elklick Run is reported to have a natural

freshwater mussel community at its headwaters. The applicant should work with the PFBC's freshwater mussel expert (Nevin Welty, 814-359-5140) to develop approaches to ensure that any potential impacts to these resources are avoided or minimized.

The EA lists in Appendix 3 each affected water body as either ephemeral, intermittent or perennial. This list needs to provide citations for the source of these classifications, as stream size and classification are directly related to the species of fishes and other aquatic resources that may inhabit the streams.

Forested Lands:

Construction of the MARC I pipeline would require the clearing of approximately 326 acres of forest habitat, and the permanent removal of approximately 170 acres of forested land. In addition to concerns about impacts due to forest fragmentation, there does not appear to be any mitigation proposed for this removal, other than to indicate that the areas temporarily cleared of trees would be allowed to revert to their original condition over a period of 20-40 years. Since one acre of land sustains approximately 700 mature hardwood trees, according to Guidelines issued by the U.S. Department of Energy (DOE) pursuant to Section 1605(b) of the Energy Policy Act of 1992, this Project would remove approximately 228,200 mature trees from the landscape along the proposed corridor. The removal of trees without sufficient reforestation can result in degradation of wildlife habitat and biodiversity loss, and can have adverse impacts on biosequestration of atmospheric carbon dioxide. EPA recommends that the NEPA analysis provide an estimate of the loss in oxygen generating capacity due to this large scale tree removal, and of the amount of carbon sequestration capacity foregone by virtue of the loss of forested lands. Finally, we recommend development of a mitigation plan, with submittal to, and approval by, the responsible state and federal resource agencies, prior to the initiation of any tree removal.

Vegetation and Wildlife:

The EA does not appear to include discussion on techniques for preventing the spreading of invasive *aquatic* species (only invasive terrestrial plant species). Since water will be withdrawn from nearby water bodies for hydrostatic testing and later discharged, and 111 water bodies would be crossed as a result of this project, EPA recommends that the NEPA analysis provide, at a minimum, information as to any necessary precautions that will be taken to prevent the spread of aquatic invasives. There are invasive fish, mussels, clams, plants, and crayfish all within the Susquehanna River Basin that could have adverse effects on aquatic communities within these watersheds. FERC's requirement on page 45 that CNYOG file with the Secretary an Invasive Species Management Plan should address these issues.

Alternatives:

The applicant has given consideration to a variety of system, route and route variation options for achieving the stated purpose and need for this Project. A number of route variations have been incorporated into the proposed route, and the overall corridor selected (Route C) was changed from the original route selected by CNYOG (Route A), purportedly due to a desire to minimize impacts on known

environmental and cultural resources. Despite this extensive and iterative process, we believe the alternatives analysis could be further improved.

For example, in using an iterative process, the original preferred route, Alternative A, was rejected in an attempt to minimize potential adverse impacts on known environmental and cultural resources. However, the newly selected route, Alternative C, would cause greater impacts to other environmental and cultural factors, e.g., Alternative C would have to cross twelve more perennial water bodies than Alternative A. Thus there may be both environmental and non-environmental factors to consider in selecting a preferred alternative, among them lessened community impacts and reduced impacts on local roadways.

The EA does not identify any route options that would not involve construction through previously undisturbed land, i.e., "Greenfields" development. The route options presented (Alternatives A, B and C) are all variations of a similar pipeline pathway to connect the TGP and Transco transmission lines, and will result in similarly adverse impacts. The EA states that collocating the Project within existing utility or road rights-of-way was investigated by FERC, and that "there are no generally north-south trending corridors that might be followed to accomplish the purpose of the Project." However, there may be other north-south corridors available further to the east or west (e.g., the Williams Energy Springville or PVR gathering line corridors) which might allow for reduction of impacts while accomplishing project objectives.

In Table C.3-1 on page 114, all of the alternatives listed are shown to impact at least one forested wetland under the National Wetlands Inventory (NWI). However, the discussion of wetlands impacts in Section B.3.d on page 40 indicates that no Palustrine Forested Wetlands (PFO) would be disturbed by the Project. This discrepancy should be explained and corrected.

Cumulative Impacts:

The EA presents an analysis of cumulative impacts (CI) by considering the environmental impacts from the proposed Project combined with impacts from three other types of past, present and reasonably foreseeable future projects, i.e., (1) other gas pipelines; (2) gas facilities associated with construction of the Project, but not under FERC's jurisdiction; and (3) unrelated projects. In a somewhat confusing and inconsistent presentation, in the first category, the EA lists eleven FERC-jurisdictional gas pipelines in Table B.11-1. However, several of those listed pipelines are not located near the proposed Project, and were correctly not considered in the CI analysis. In that light, it is not clear why those projects were listed in Table B.11-1. In the 2nd category, only one non-jurisdictional project is listed, a power line related to CNYOG's North-South pipeline project. In the 3rd category, Unrelated Projects, again in Table B.11-1, three gathering system projects are listed, but only two in the vicinity of the proposed Project, as well as generalized, non-specific oil and gas wells, and "foreign" gathering pipelines. As stated under General Comments, a map or maps showing the locations of the relevant pipelines and other projects would greatly enhance the reader's understanding of the analysis.

No other past, present or reasonably foreseeable non-gas development related activities were identified for consideration in the cumulative impact analysis. While we recognize that the Project area is presently largely rural and undeveloped, it is not clear what, if any, steps were taken to identify whether there are other reasonably foreseeable actions located in the area, such as highway or road improvements, housing developments, industrial or commercial facilities, other public utilities, etc. The NEPA analysis should document what steps were taken to identify reasonably foreseeable non-gas development related actions. See 40 CFR 1502.22.

After presenting numerous projects and categories in Table B.11-1 for consideration in the CI analysis, and further discussing most of these in some depth in narrative form, the EA declares that only four gas pipeline projects have impacts considered relevant to the CI analysis. The EA then adds, however, that CI related to Marcellus Shale gas development would also be addressed (despite having dismissed this entire category in the preceding discussion on pages 101-102 as being "unknown and, thus, outside the scope of our analysis"). As a result, it is not clear to what extent any projects other than the four "relevant" pipeline projects is considered as part of the CI analysis.

When considering CI from the combined gas pipeline projects, the EA provides only minimal quantitative estimates of their environmental effects. Such analysis, however, is limited only to wetlands and forested lands by presenting the acreages affected by each project, and thus implying that the effects may be additive if considered on a watershed scale. While acknowledging that there is some potential for adverse CI to surface waters, the EA does not provide any quantitative discussion or evaluation of the magnitude or potential for watershed effects and impacts to surface waters (e.g., likelihood of altered flow regimes, changes in the magnitude and duration of sediment loadings, magnitude of temperature changes, extent and magnitude of channel and floodplain instability, etc.) as a result of project activity. There is no discussion of surface water flow patterns, spatial/geographic location and distribution of stressors and water bodies, basin or watershed size, and other critical factors that may influence the extent and magnitude of potential impacts to surface water quality. Based on this limited quantitative analysis, it is difficult to evaluate the ability of the affected watersheds to accommodate or buffer all of the anticipated development activity without realizing some immediate as well as long term effects (both temporal and spatial) on the health and sustainability of aquatic resources.

The Project includes substantially increasing the capacity of an existing compressor station and construction of a new compressor station. Contrasted with well drilling and construction activities, compressor and gas processing stations are emission sources that will exist well into the future, and whose impacts can be predicted through air modeling. In fact, it is likely that CNYOG has performed an analysis of the pattern of development of the shale gas to locate, design and justify the Project. Yet the EA does not analyze information about compressor stations or other emission sources in the Project area. Such information is readily available to FERC and CNYOG about the locations of connections to gas pipelines and the related air emissions from these sources.

We also disagree with FERC's conclusion that because no other existing permitted facilities near the compressor stations are required to report emissions, any incremental emissions from the compressor station will not have a significant impact on air quality. The EA states:

> "We do not anticipate cumulative operational emissions from the Project to have a significant impact on air quality in the project area. In addition to the air emissions from the Project being minimized, no other existing permitted facilities in all of Sullivan County have been required to report emissions, indicating that any incremental emissions from the M1-S Compressor Station would not cause a significant impact on air quality. Furthermore, there are no facilities within 10 kilometers (6.2 miles) of M1-S Compressor Station in any county that reported air emissions."

Emissions related to shale gas development are rapidly increasing and the EA acknowledges that there will be increased long-term emissions of criteria pollutants, HAPs, and GHGs within the region. Although the fact that these emissions are largely unpermitted may present a challenge in terms of quantification, that does not negate their potential adverse impact on air quality, and EPA believes that sufficient information exists to allow for the level of analysis called for by the NEPA regulations. We believe the NEPA analysis should contain an air modeling analysis for the Project.

Although prediction of where specific new Marcellus wells may be located could be problematic, the EA does not reflect the existence of known *past and present* wells and associated infrastructure, other past and present non-gas related development, and any impacts associated with their presence and continued operations. EPA recommends that the NEPA analysis project the number of wells (and related infrastructure and impacts) in the Project service area which might be drilled based on permit data from PA DEP or other sources, and industry information sources. While it would be inaccurate to attribute all future gas drilling in the area to the MARC I Hub Line, there will undoubtedly be more gas drilling in the Project service area, and the combined effects of all past, present and reasonably foreseeable future drilling and other development combined with the proposed Project needs to be included in the analysis.

Finally, FERC includes in the cumulative impact analysis, PADEP's report titled *The Northeastern PA Marcellus Shale Short-Term Ambient Air Sampling*. In the EA, FERC points out that "due to the limited scope and duration of the sampling and the limited number of sources and facilities sampled, the findings only represent conditions at the time of the sampling and do not represent a comprehensive study of emissions." The EA appropriately concludes that the limitations of this study preclude its use for addressing the cumulative impacts of air emissions from shale gas development. Nevertheless, the EA includes a finding from the PADEP report that the sampling did not identify concentrations of any compound that would likely trigger air related health issues associated with Marcellus Shale drilling activities. Including this statement as part of the CI analysis is misleading and does not have any implications for long term impacts.